

QV2020 and QV1020 All Flash Array  
Software 5.1.2 with MAESTRO 3.5.2  
Release Notes



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## QV2020 and QV1020 All Flash Array

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The QV2020 and QV1020 All Flash Array is the latest line of storage products developed by VIOLIN. The QV2020 is supported with software release 5.0 and later. The QV1020 is supported with software release 5.1.

### QV2020 and QV1020 Supported Features

- Fibre Channel 16Gb with 4 connections per Controller (QV2020)
- Fibre Channel 16Gb with 2 or 4 connections per Controller (QV1020)
- iSCSI 25/10G with 4 connections per Controller (QV2020 and QV1020)
- NVMe Drives: 1.9TB, 3.84TB, 7.6TB, 15TB
  - 11 or 22 drives
  - QV2020 Configured at 5.0 version: 12 or 24 drives
- Volume types:
  - Dedupe
  - Thick (Raid-1, Raid-5)
  - Thin volumes
  - Attributes: QOS (thick or thin volumes), writeback, write-through
- Snapshots (dedupe only volumes)
  - Schedules
  - Snapshot Promotion (clone)
- iSCSI Attributes: Jumbo Frames, CHAP
- vSphere Client Plug-in for versions 6.5 U3, 6.7 U3 and 7.0
- Phone-home/Telemetry (default enabled)
- Email Alerts
- Data Security (5.1.2 and later): Data-at-Rest Protection and Passkey Protection
- Web based User Interface, **MAESTRO**
  - Management of QV2020, QV1020, and XIO G4 Arrays
  - Supported browsers: Google Chrome on Windows 7, Windows 8 and Windows 10, Firefox, IE 11, and Edge
  - Dashboard
    - Storage usage
    - Performance graphs
  - Performance historical data retrieval
  - Management of volumes and snapshots and schedules
  - Management of networks, FC connections
  - Logical attachments of servers to volumes
  - Redundant access to Array (mirrored VMs)
  - Data Security (3.5.2-2)

### Release 5.1 with MAESTRO 3.5

The 5.1 software release adds support for the following:

- QV1020 Array
  - 11 or 22 NVMe drives
  - 2 Fibre Channel ports per Controller (4 total)
  - iSCSI 25/10G with 4 connections per Controller
- New shipping configuration (default installed with 5.1 software):
  - 10% Spare Capacity

- 11 or 22 drive support (QV2020 and QV1020)

**Note:** Systems initialized with 12 or 24 drives running 5.0 software will retain the configuration with 20% sparing capacity. A future version of software is required to upgrade 5.0 configurations.

## Fixes/Enhancements:

### 5.1.2

- Battery Calibration (see section below)
- Data Security: Data-at-Rest and Passkey Protection
  - Must be enabled prior to initialization of the Array
  - Maestro 3.5.2-2 to include Data Security
- Continued performance improvements. Focus on fabric issues and quicker response on aborted commands

### 5.1.0/5.1.1

- ActiveWatch Telemetry auto-sends crash dumps
- Fix for slow memory leak that impacts management of the Array, including Maestro
- Improvements in error handling when busy conditions occur
- Fix false detection of power supply low/good
- Fix periodic restart when potential dedupe data not find duplicate
- AIX 7.1 and AIX 7.2 Support

## Upgrading from 5.0 to 5.1

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*A battery calibration will start approximately 1.5 hours after upgrading from 5.0 to 5.1. This will take one controller offline for approximately 12 hours during the calibration and then alternate with the other controller.*

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### Battery Calibration (5.1.2)

Battery Calibration will occur every 6 months, starting with software 5.1.2. When battery calibration starts, one controller at a time will be taken offline for approximately 12 hours. IO will continue to be serviced from the remaining online controller. During battery calibration, the controller status will report offline due to battery calibration. Email alerts are generated at the start and completion of battery calibration for each controller. Battery calibration requires both controllers to be online and operational to start.

*Reference the QV2020-QV1020 User Guide for additional details.*

### Requirements

- Port Usage
  - 5443 is used for Telemetry
  - 9000 is used for Maestro

## Maximums and Restrictions

This version has the following restrictions:

- Maximum size volume: 8 TB
- Maximum size dedupe volume: 64TB
- Maximum of 320 WWNs associated to Array volumes
- Maximum 240 volumes
- Dedupe Volumes can only be created on Pool 1
- Maximum 7 Arrays (QV2020, QV1020, XIO G4) managed in MAESTRO

Reference the QV2020 and QV1020 All Flash Array Best Practices for additional information on features and optimal configurations.

## vCenter Plug-in

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vCenter plug-in is supported in QV2020 software 5.0.11 and later, and QV1020 software 5.1 and later. Maestro manages the installation of the plug-in.

The VIOLIN plugin is supported on vCenter versions:

- 6.5 U3
- 6.7 U3
- 7.0

Note: vCenter versions prior to 7.0 may require a ESX server reboot to update the installation status of the VIOLIN plugin.

Refer to the QV2020 and QV1020 User Guide for the installation process.

## Subscriptions

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Subscriptions to VIOLIN proactive monitoring service (Activewatch) are enabled by default.

- 1) If proxy server is needed in your environment, please edit the three default subscriptions, in MAESTRO Advanced Settings, to configure the appropriate proxy servers.
- 2) Customers who don't want to use this proactive monitoring service can disable Activewatch, after initializing the Array, by deleting all three default subscriptions in MAESTRO Advanced Settings or contacting VIOLIN customer support for assistance.

## Product Documentation and Auxiliary Software

For Product documentation and software downloads, please contact VIOLIN Customer Support.

## Support Matrix

Reference the QV2020 and QV1020 Best Practices Guide for specific details on optimal use. The information in this section highlights common recommendations for the VIOLIN product.

Operating System Versions	Interconnect
ESX 6, 7 (recent updates)	Switched or Direct Attached (FC: Qlogic)
Windows 2012, 2016	Switched or Direct Attached (FC: Qlogic)
RHEL 7	Switched or Direct Attached (FC: Qlogic)
AIX 7.1 7100-02 minimum AIX 7.2 7200-05 minimum	Switched (FC: IBM OEM HBA)  <b>Requires Violin Systems AIX Install Package, which includes the multipath files.</b>

Notes:

- ESX: Refer to the QV2020 and QV1020 Best Practices for ESX specifics and information regarding dedupe and unmap features.
- Cisco UCS: ESXi 6.5 requires the latest updates to obtain path recovery fixes and fixes specific to UCS. The latest fixes for UCS are in Dec 2017.
- Direct Attached requires fixed speed settings on the Array Controllers and on the HBA ports.

### Switch and Direct-Attached Configurations

The below configurations have been qualified by Violin Systems. Other vendor components could be compatible but issues that might occur may not be reproducible by Violin Systems to troubleshoot.

Interconnect Type	Interconnect Settings	Controller Settings
Cisco 8 & 16Gb FC Switch <i>Switch fw: 8.1 (1a) minimum for 16Gb</i>	Switch SFPs auto or fixed speed	Controller ports fixed or auto
Brocade 8 & 16Gb FC Switch <i>Switch fw: 7.4.2a or 2c minimum for 16Gb</i>	Switch SFPs fixed speed	Controller ports fixed
Qlogic 8Gb FC Switch	Switch SFPs auto or fixed speed	Controller ports auto or fixed
DAS (Direct-Attached) FC	Fibre Channel: fixed speeds on HBA with "loop preferred otherwise point-to-point" and only Qlogic HBA supported	Fibre Channel: Fixed speeds to match HBA
Cisco, Brocade, Arista, Mellanox Network Switch (iSCSI)	25G/10G, switched or Direct Attached	Data Networks must be in separate VLANs. <i>Reference QV2020 and QV1020 Best Practices document</i>

Notes:

- HBAs should be installed with the latest operating system drivers and firmware for full 16Gb support.
- Switches should have the latest supported switch firmware.

## Feedback

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VIOLIN welcomes feedback, positive and negative, and VIOLIN Global Services at 1.800.734.4716 stands ready to assist as needed.

### Contacting VIOLIN

To obtain additional information or technical support for VIOLIN products, or to obtain an RMA number and replacement product, contact us at:

- Phone US Toll Free: 1-855-846-5465
- Global Support Numbers available at: <https://www.violinsystems.com/support-services/>
- E-mail: [support@x-io.com](mailto:support@x-io.com) and [support@violinsystems.com](mailto:support@violinsystems.com)





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